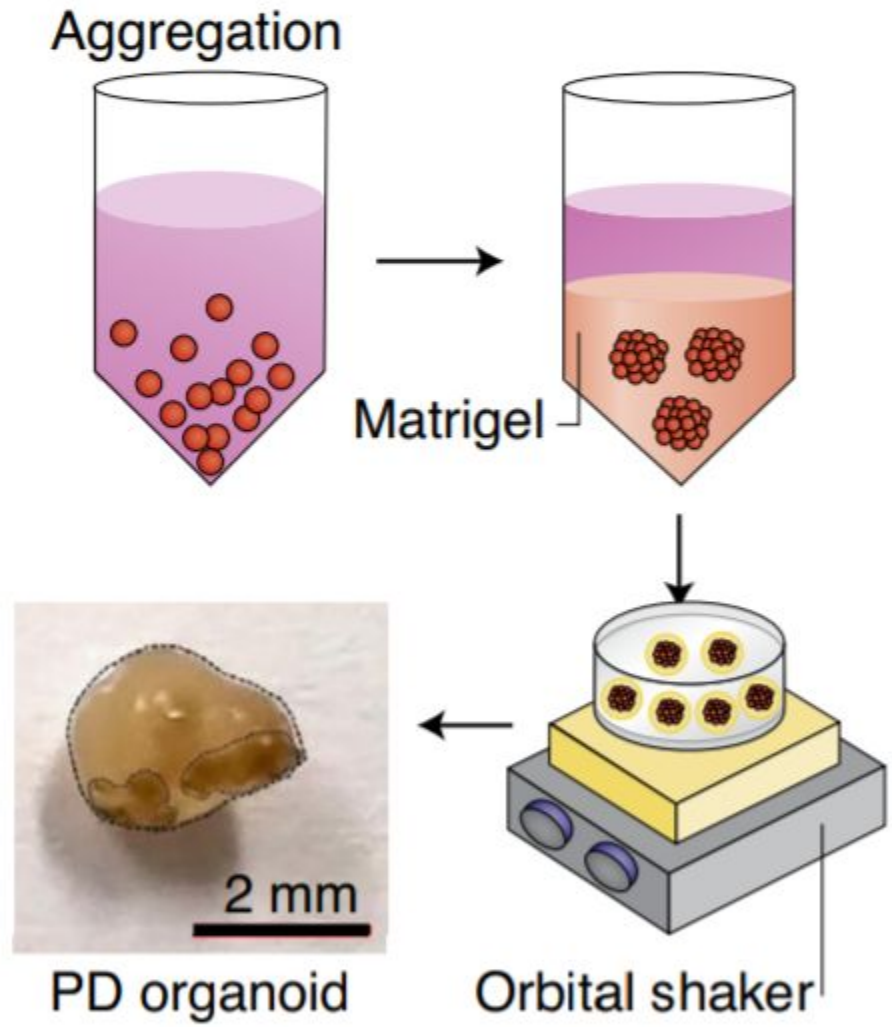
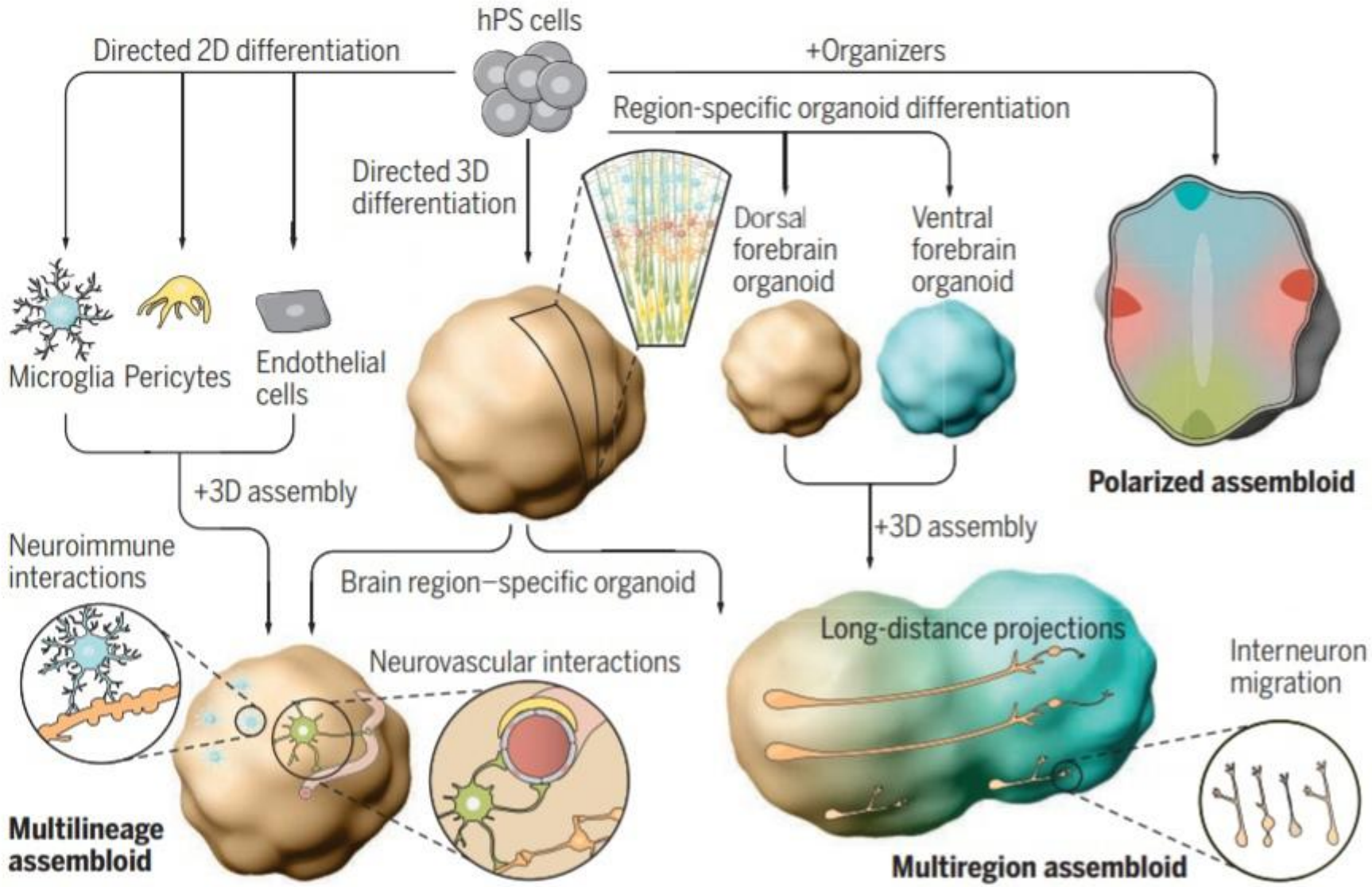
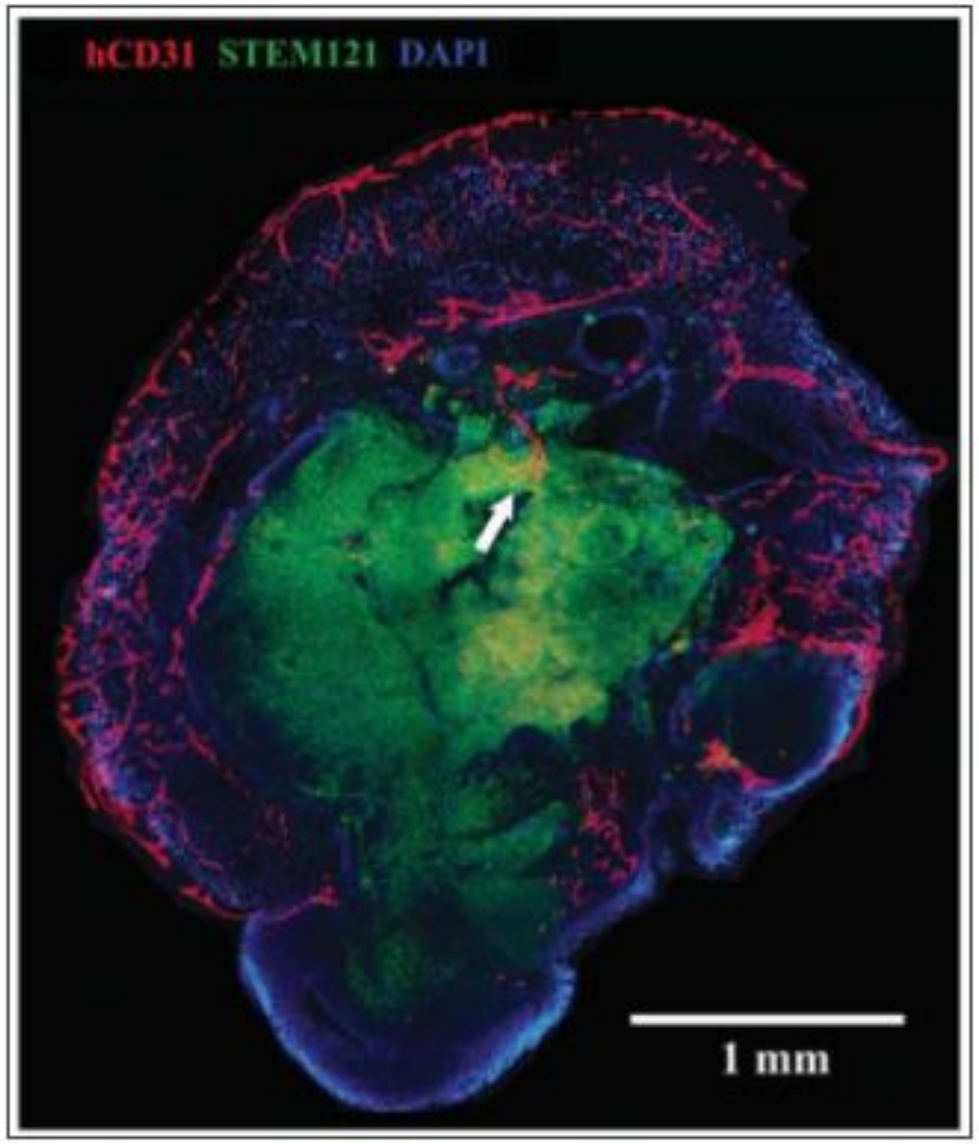


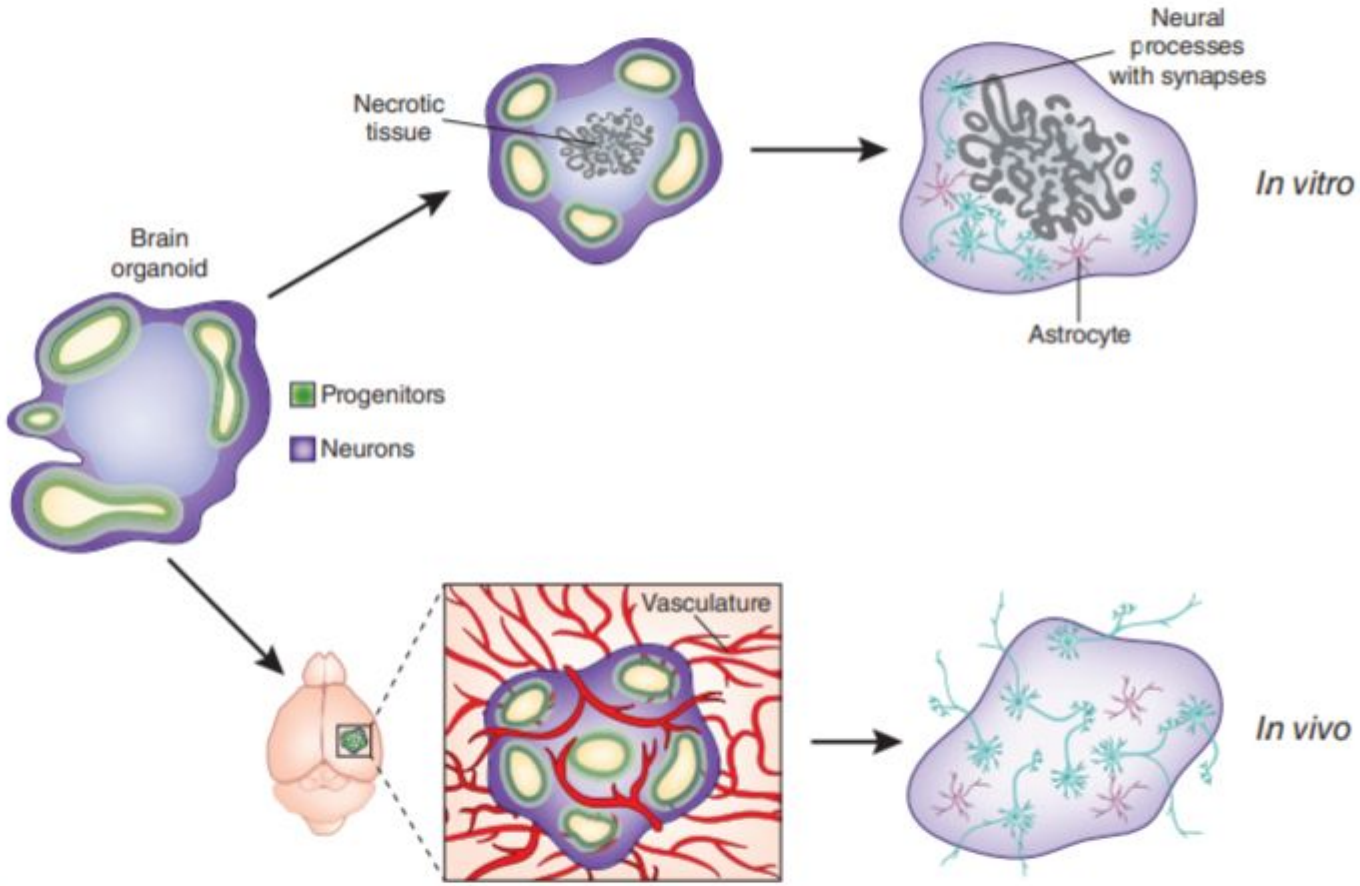
Tan H. et al, 2020



Paşca, Sergiu P. (2019).

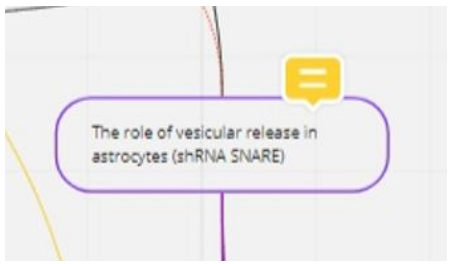


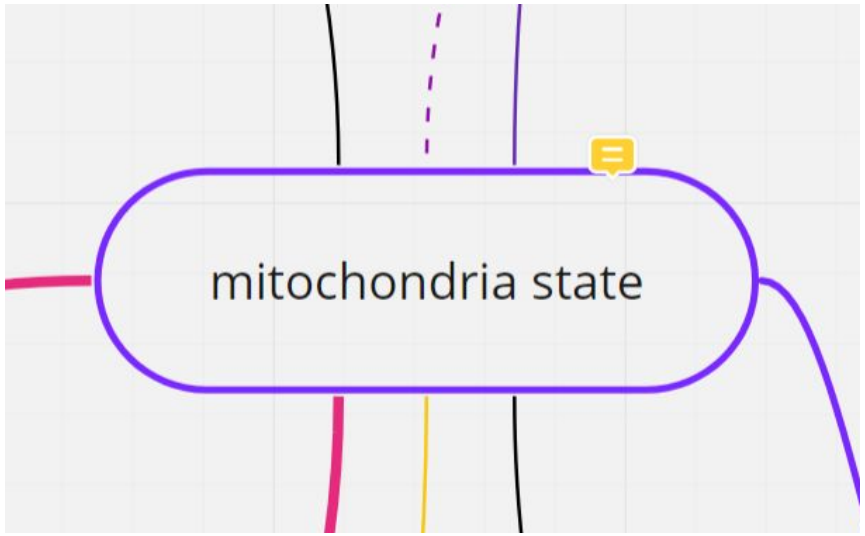
Missy T. Pham, 2018



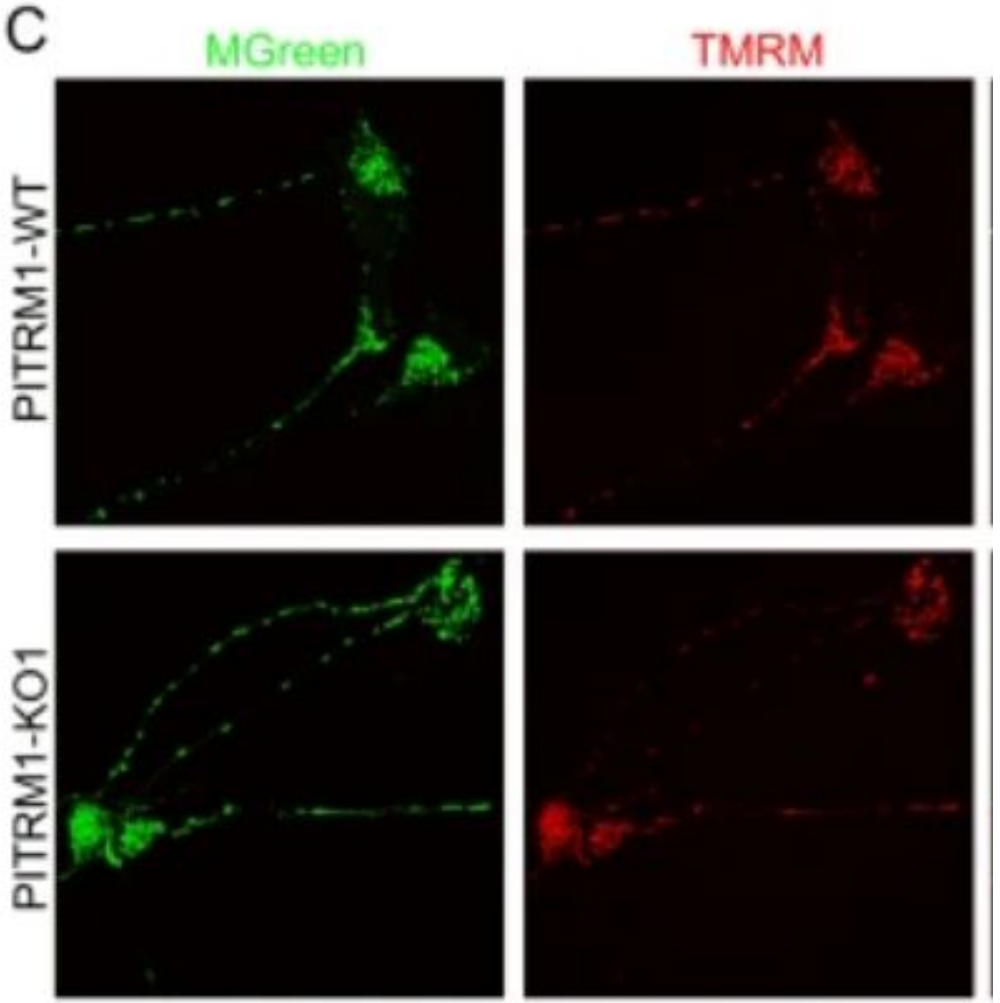
Lancaster M.A., 2018


blood vessels
astrocyte as a sensor
neuronal activity

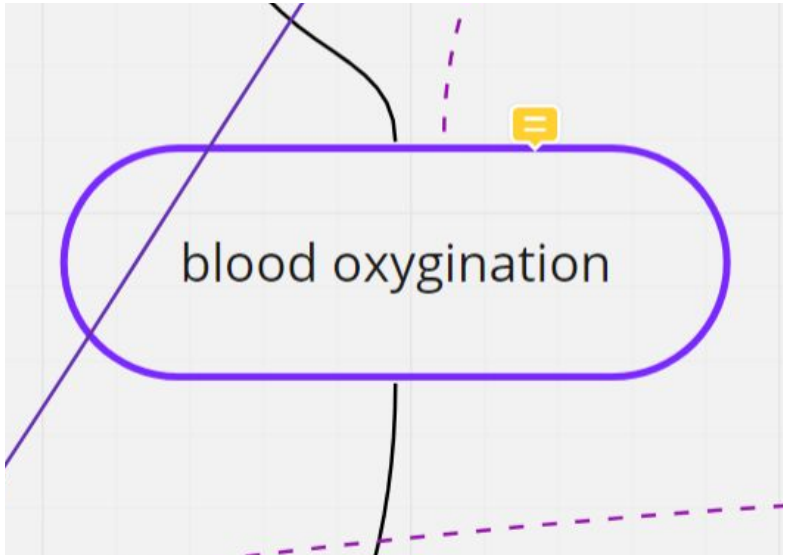

The role of vesicular release in astrocytes (shRNA SNARE)



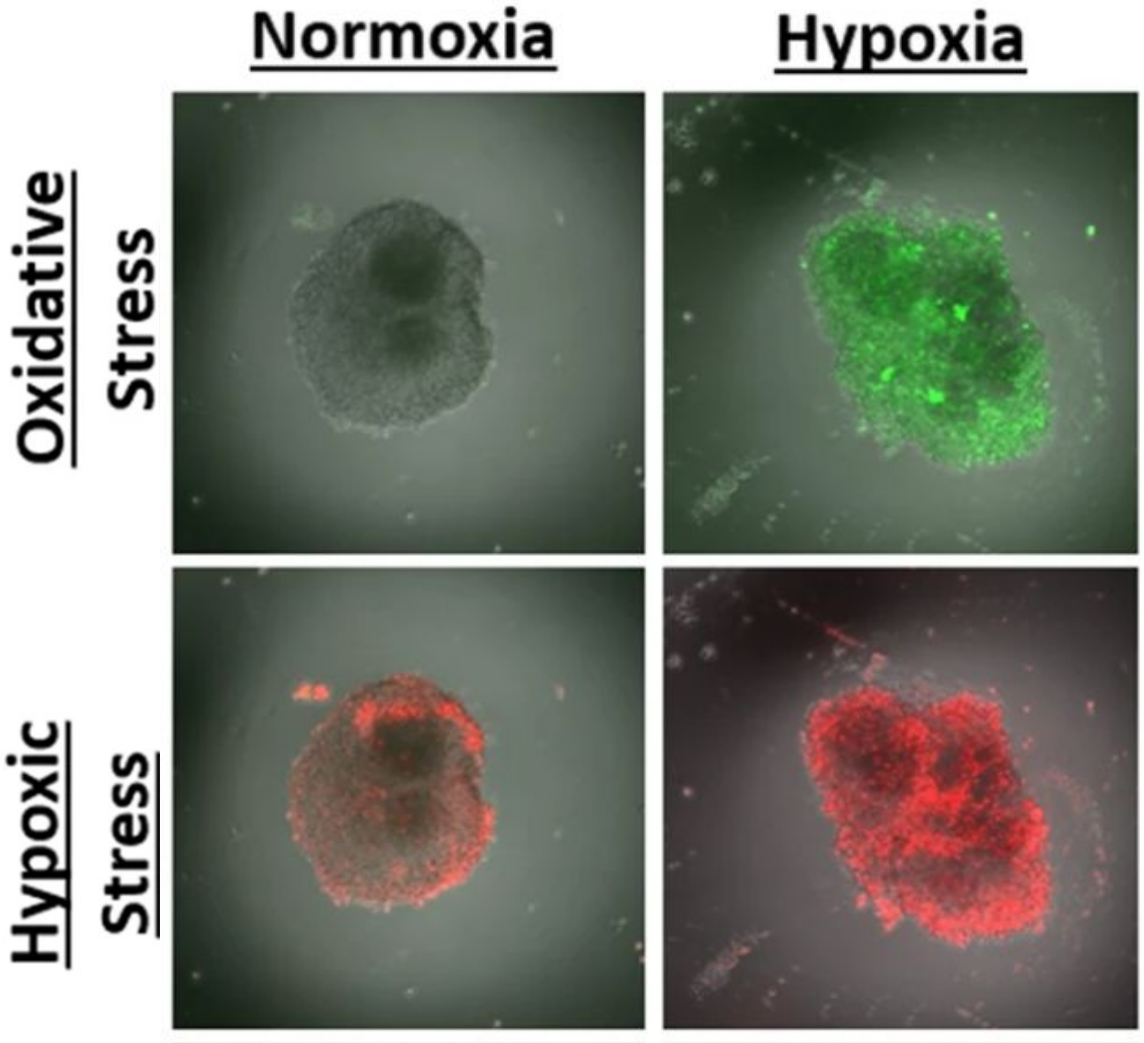
Loss of function of the mitochondrial peptidase PITRM1 induces proteotoxic stress and Alzheimer's disease-like pathology in human cerebral organoids (Pérez M.J. et al. 2020)



Tools and approaches for analyzing the role of mitochondria in health, development and disease using human cerebral organoids (Michał Liput et al, 2021)

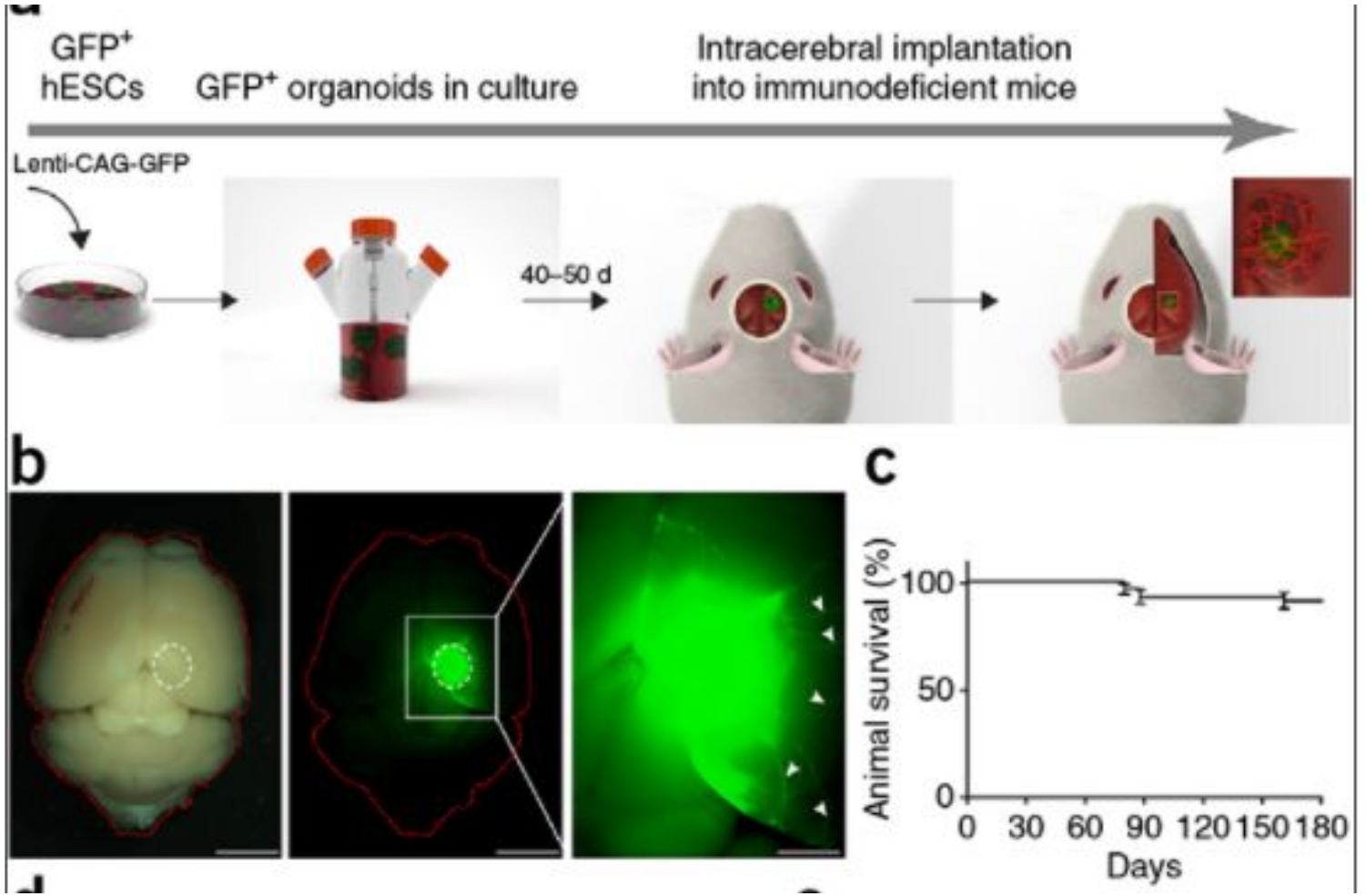


Multicellular 3D Neurovascular Unit Model for Assessing Hypoxia and Neuroinflammation Induced Blood-Brain Barrier Dysfunction (Nzou G. et al., 2020)

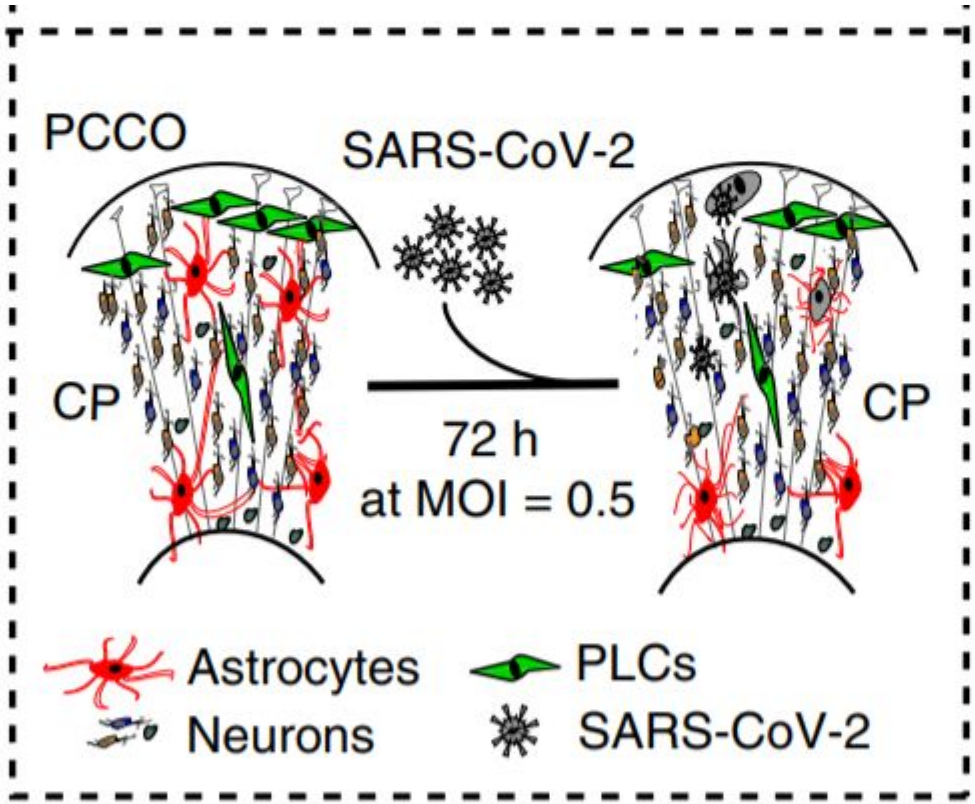


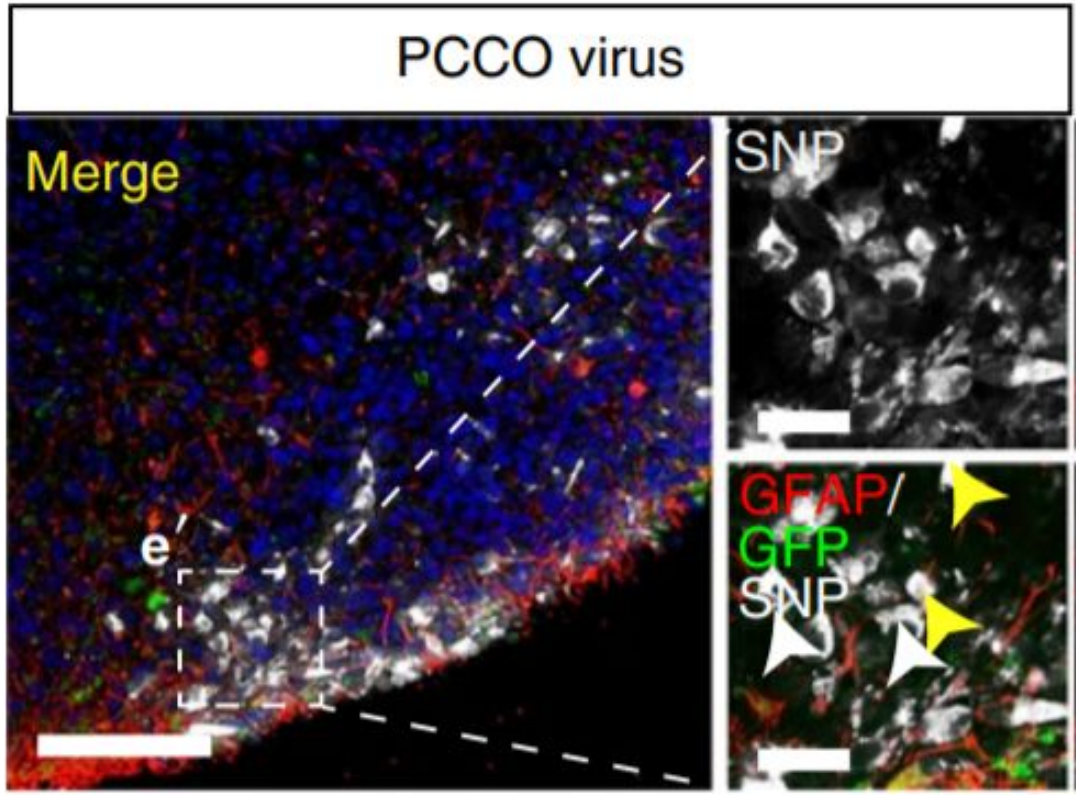
exposome

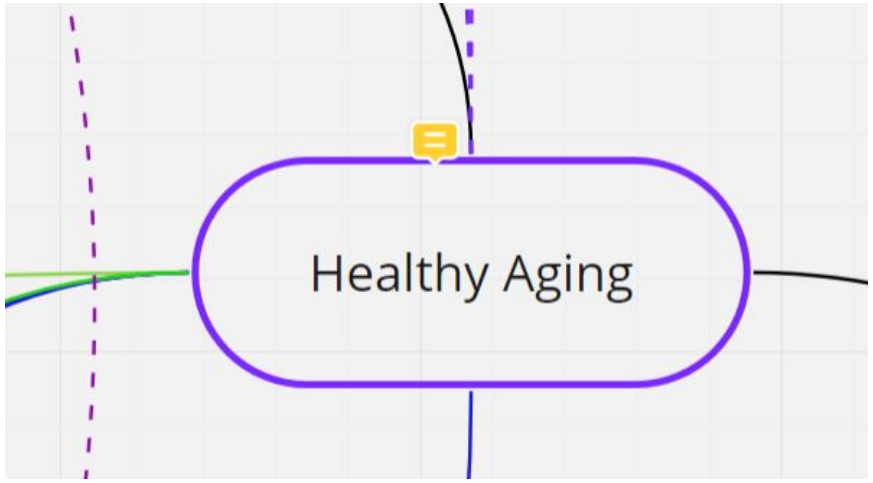
An *in vivo* model of functional and vascularized human brain organoids (**Mansour**, **A**. **A**. **et al**., 2018)



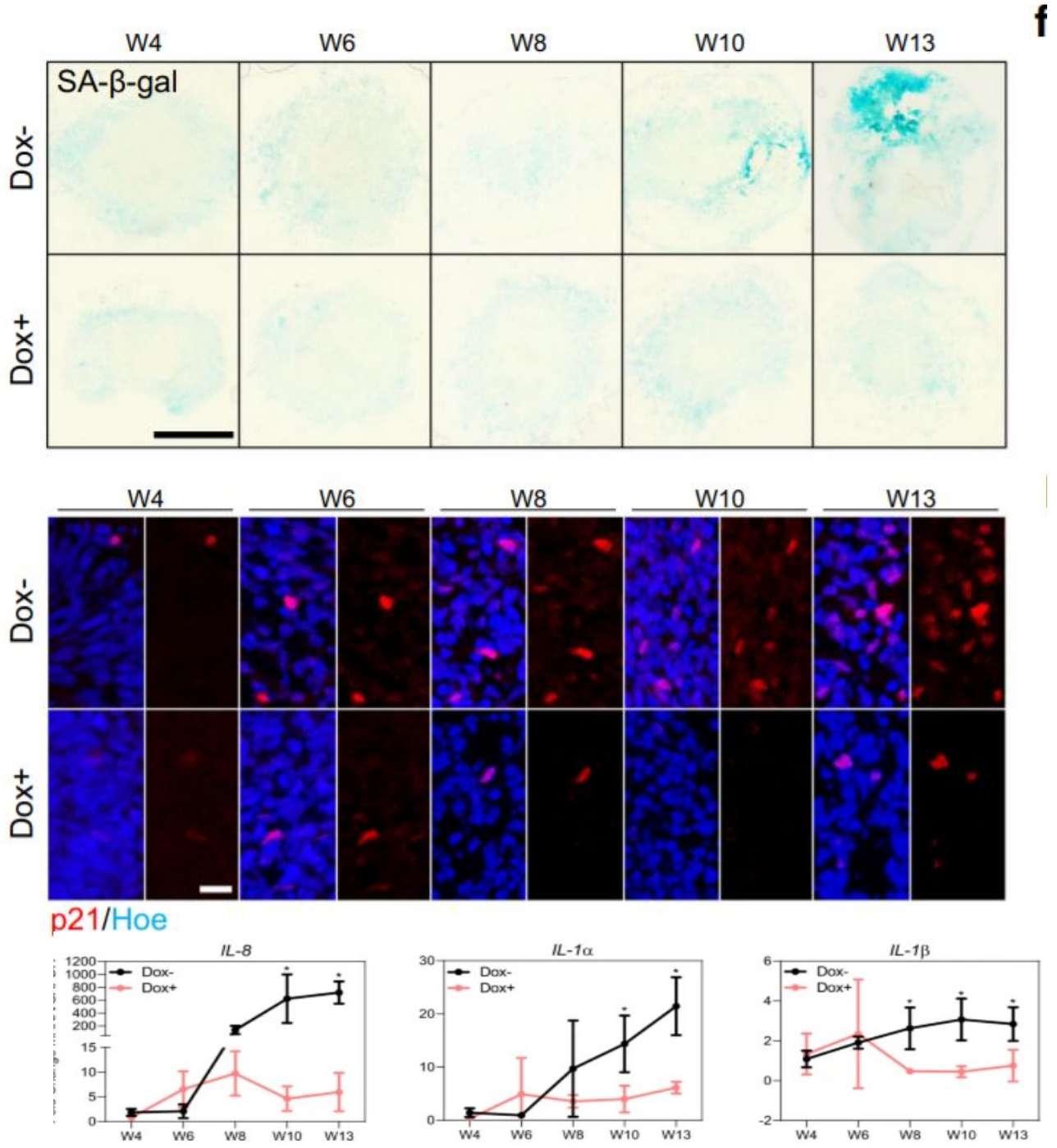
A human three-dimensional neural-perivascular 'assembloid' promotes astrocytic development and enables modeling of SARS-CoV-2 neuropathology (Wang L. et al, 2021)





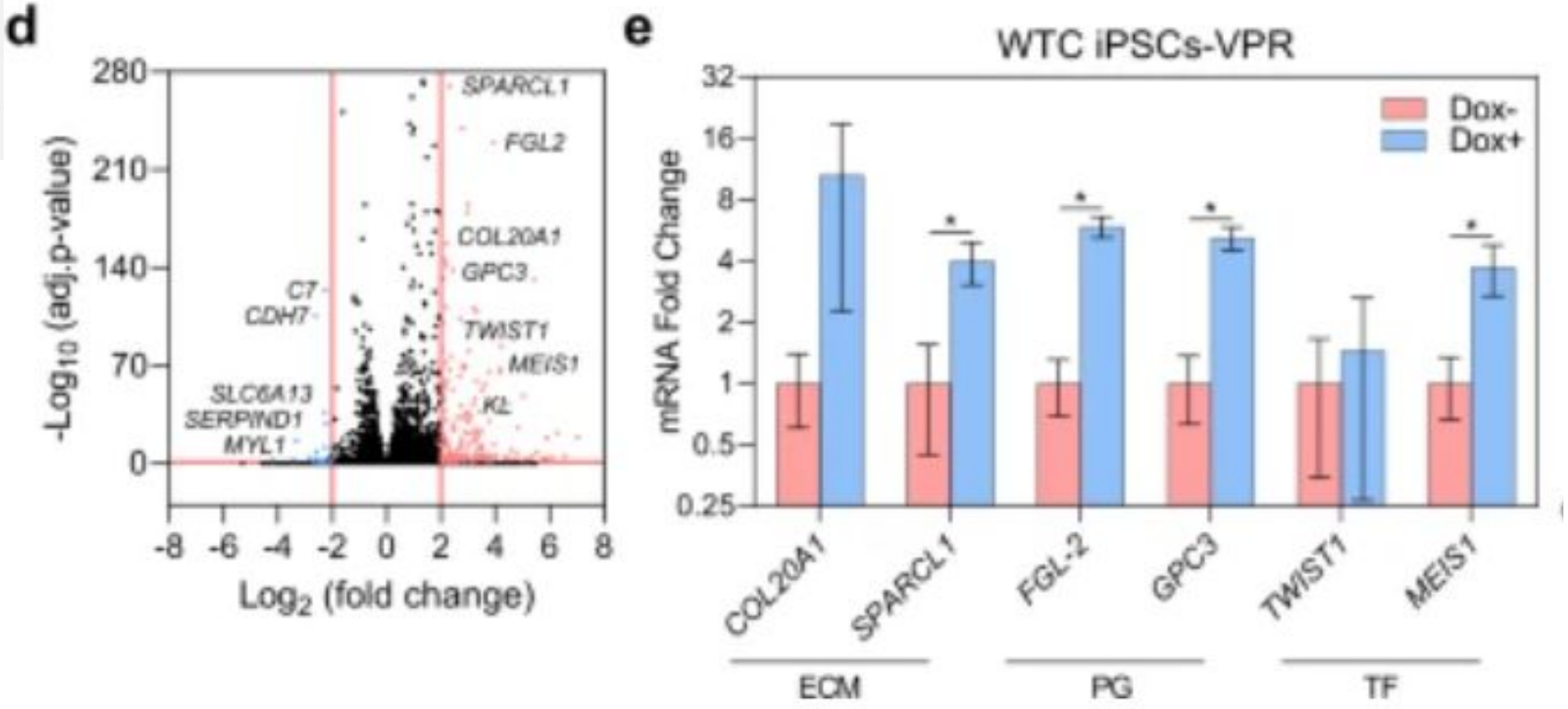


Klotho inhibits neuronal senescence in human brain organoids (Shaker M.R., 2021)

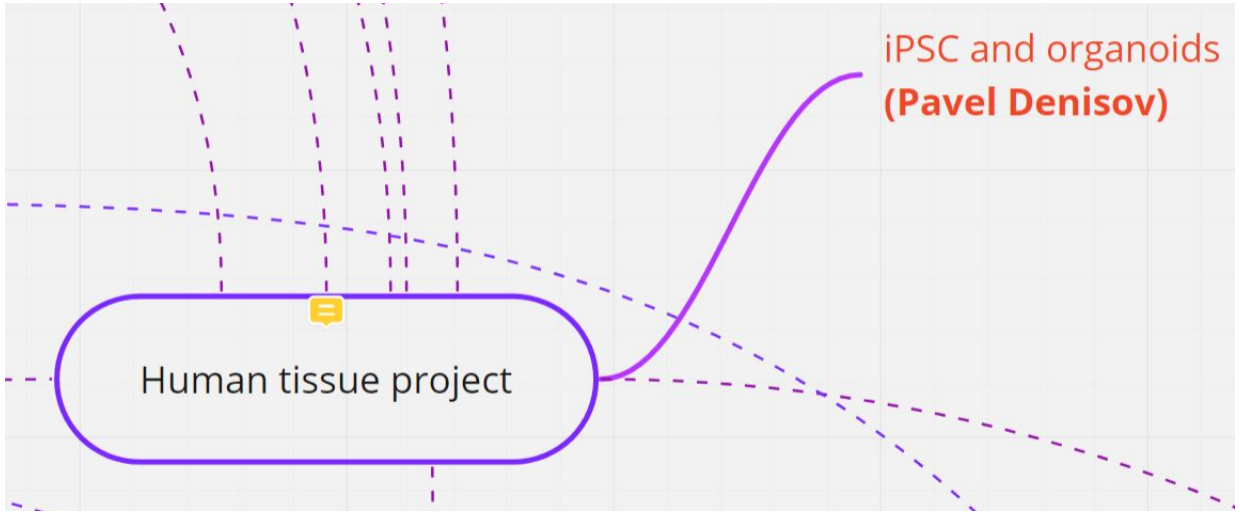


Extracellular matrix
(Yulia Dembitskaya)

Klotho inhibits neuronal senescence in human brain organoids (Shaker M.R., 2021)



ECM ?
PNNs ?


iPSC and organoids
(Pavel Denisov)
Human tissue project

Alzheimer's
Disease model